

Applicant Name Hill County
Project Name Beaver Creek Dam Seepage Control Berm

Project Abstract

This project seeks to mitigate seepage problems on the right abutment at Beaver Creek Dam by installing a seepage control berm. The dam is not in compliance with current standards for blowout (upheaval) or for exit gradient (piping). A seepage control berm will bring the dam into compliance with state standards and provide long-term protection from seepage related piping of embankment materials.

Beaver Creek Dam was planned, designed, and partially funded by the Natural Resources Conservation Service (NRCS). The planning, design, and construction of the reservoir were authorized under authority of the Watershed Protection and Flood Prevention Act (PL-566). The dam and reservoir were completed in 1974. The dam is owned, operated, and maintained by Hill County. This structure was planned for multi-purpose uses and is utilized for flood prevention, irrigation, recreation, and fish and wildlife.

Seepage has been a persistent problem in the right abutment area since construction of the dam. High foundation uplift pressures have also been documented. The sinkhole was subsequently repaired; however, seepage and high pressures remain. According to the Department of Natural Resources and Conservation (DNRC) Dam Safety Section, blow out and progressive piping failure are possible and could occur catastrophically with little or no warning. Failure of the dam would cause extensive damage downstream to state highways, railroads, dwellings, and businesses in the Havre area.

In 2005, DNRC issued an operational permit for the dam with the condition that the seepage problem be addressed before 2009. Failure to meet the condition could result in the reservoir level restriction. If the level restriction was implemented, usable storage capacity at the reservoir could be reduced from 3,600 acre-feet to 1,200 acre-feet or less.